Abstract

A rubber dam comprising a barrier membrane, an operative insert engaged to the sheet of barrier material and an integrally attached exterior frame to enable a dentist to isolate various portions of the dental alveolar arch. The rubber dam devices have integrally attached frames which eliminate the requirement of stretching the rubber dam membrane over an exterior frame which is a separate device. The rubber dams also have an integral operative insert imbedded within or attached to the interior of the barrier membrane. The operative inserts may function wholly within a single alveolar arch or alternatively may contact both alveolar arches simultaneously. The operative inserts may generally be any one of the four general classifications of elastic, malleable, resilient, and rigid or substantially rigid. The integrally attached exterior frames may be composed of elastic, malleable, resilient, or essentially rigid materials. The operative insert may be a separate entity from the integral frame, functioning independently from the frame, or alternatively the operative insert and integral frame may be directly attached in one or more locations and function as a single unit. The barrier membrane is usually an elastomeric material with a relatively high percentage of elongation, but alternatively may be composed of a foil or plastic or composite or water-proof paper or cardboard material which has physical characteristics of a low percentage of elongation. The rubber dams of this disclosure may be manufactured in flat configurations or alternatively may be three-dimensional dams. The operative inserts may have complete circumferential elements or alternatively may have abbreviated operative inserts. True rubber dams with exterior frame which retract the patient's lips 360 degrees as well as abbreviated rubber dam barrier deives are described. Rubber dams with more than one operative insert functioning simultaneously within a single dam, rubber dams of alternative material construction, and abbreviated intra-oral rubber dam devices employing the principles of design of the overall disclosure are disclosed.